

Claims

1. A multimedia distribution device comprising:
a nonvolatile memory storing:
a compressed media signal in which at least two scenes are selectively compressed using different codecs from a codec library, the codecs being automatically selected to produce a highest compression quality for the respective scenes according to a set of criteria without exceeding a target data rate; and
a plurality of codec indicators specifying which codecs from the codec library were used to respectively compress each scene within the compressed media signal.
2. The multimedia distribution device of claim 1, wherein the nonvolatile memory further stores the codec library.
3. The multimedia distribution device of claim 1, wherein the nonvolatile memory further stores a multi-codec player to selectively decode each scene within the compressed media signal using a particular codec from the codec library specified by a codec indicator.
4. The multimedia distribution device of claim 1, wherein the nonvolatile memory includes a link to a multi-codec player on a remote server, wherein the multi-codec

player is to selectively decode each scene within the compressed media signal using a particular codec from the codec library specified by a codec indicator.


5. The multimedia distribution device of claim 4, wherein the link comprises a uniform resource locator (URL).

6. The multimedia distribution device of claim 1, wherein the nonvolatile memory further stores a link to the codec library on a remote server.

7. The multimedia distribution device of claim 1, wherein the codecs in the codec library are selected from the group consisting of discrete cosine transform (DCT) codecs, fractal codecs, and wavelet codecs.

8. The multimedia distribution device of claim 1, wherein at least one codec is selected by an artificial intelligence (AI) system based on a plurality of characteristics of a scene.

9. The multimedia distribution device of claim 1, wherein at least one codec is selected by testing at least a subset of the codecs of the codec library on a scene and automatically selecting the codec that produces a highest compression quality for the scene according to a set of criteria without exceeding the target data rate.

10. The multimedia distribution device of claim 1, wherein the nonvolatile memory further stores media identifier that, when presented with authentication data to a token server, results in a transmission of a token comprising a key for decrypting the compressed media signal.
11. A method for distributing multimedia content comprising: 
storing in a nonvolatile memory a compressed media signal in which at least two scenes are selectively compressed using different codecs from a codec library, the codecs being automatically selected to produce a highest compression quality for the respective scenes according to a set of criteria without exceeding a target data rate; and
storing in the nonvolatile memory a plurality of codec indicators specifying which codecs from the codec library were used to respectively compress each scene within the compressed media signal.
12. The method of claim 11, further comprising:
storing the codec library within the nonvolatile memory.
13. The method of claim 11, further comprising:
storing a multi-codec player within the nonvolatile memory, wherein the multi-codec player is to selectively decode each scene within the compressed media signal using a particular codec from the codec library specified by a codec indicator.

14. The method of claim 11, further comprising:
storing within the nonvolatile memory a link to a multi-codec player on a remote server, wherein the multi-codec player is to selectively decode each scene within the compressed media signal using a particular codec from the codec library specified by a codec indicator.
15. The method of claim 14, wherein the link comprises a uniform resource locator (URL).
16. The method of claim 11, further comprising:
storing within the nonvolatile memory a link to the codec library on a remote server.
17. The method of claim 11, wherein the codecs in the codec library are selected from the group consisting of discrete cosine transform (DCT) codecs, fractal codecs, and wavelet codecs.
18. The method of claim 11, wherein at least one codec is selected by an artificial intelligence (AI) system based on a plurality of characteristics of a scene.
19. The method of claim 11, wherein at least one codec is selected by testing at least a subset of the codecs of the codec library on a scene and automatically selecting the

codec that produces a highest compression quality for the scene according to a set of criteria without exceeding the target data rate.

20. The method of claim 19, further comprising:

storing within the nonvolatile memory a media identifier that, when presented with authentication data to a token server, results in a transmission of a token comprising a key for decrypting the compressed media signal.

21. A multimedia distribution device comprising:

a nonvolatile memory storing a compressed media signal in which at least two segments are compressed using different automatically-selected quality settings of a codec, the quality settings for each segment being automatically selected to maintain within a target range a data rate of an output signal to which the compressed segments are to be added.


22. The multimedia distribution device of claim 21, wherein an automatically-selected quality setting comprises at least one of a quality quantizer, a frame size, and a frame rate.

23. The multimedia distribution device of claim 21, wherein the quality settings are selected by testing a plurality of different automatically-selected quality settings for compressing a segment and selecting one of the tested quality settings that is to

produce a data rate that is closest to a target range when the segment is compressed using the selected setting and added to the output signal.

24. The multimedia distribution device of claim 21, wherein the nonvolatile memory stores the codec and a player for using the codec to decode the compressed media signal.

25. The multimedia distribution device of claim 21, wherein the nonvolatile memory further stores a media identifier that, when presented with authentication data to a token server, results in a transmission of a token comprising a key for decrypting the compressed media signal.


26. A method for distributing multimedia content comprising: 
storing in a nonvolatile memory a compressed media signal in which at least two segments are compressed using different automatically-selected quality settings of a codec, the quality settings for each segment being automatically selected to maintain within a target range a data rate of an output signal to which the compressed segments are to be added.

27. The method of claim 26, wherein an automatically-selected quality setting comprises at least one of a quality quantizer, a frame size, and a frame rate.

28. The method of claim 26, wherein the quality settings are selected by testing a plurality of different automatically-selected quality settings for compressing a segment and selecting one of the tested quality settings that is to produce a data rate that is closest to a target range when the segment is compressed using the selected setting and added to the output signal.

29. The method of claim 26, further comprising:
storing within the nonvolatile memory the codec and a player for using the codec to decode the compressed media signal.

30. The method of claim 26, further comprising:
storing within the nonvolatile memory a media identifier that, when presented with authentication data to a token server, results in a transmission of a token comprising a key for decrypting the compressed media signal.

31. A method for securely distributing multimedia content comprising: 
encrypting a compressed media signal in which at least two segments have been selectively compressed using different codecs from a codec library, the codecs being automatically selected to produce a highest compression quality for the respective segments according to a set of criteria without exceeding a target data rate; and
storing the encrypted media signal on a multimedia distribution device with a plurality of codec indicators specifying which codecs from the codec library

were used to respectively compress each segment within the compressed media signal.

32. The method of claim 31, further comprising:
storing a media identifier on the multimedia distribution device identifying the encrypted media signal.
33. The method of claim 32, further comprising:
in response to receiving the media identifier from a destination system:
authorizing the destination system to play the compressed media signal;
and
transmitting a token to the destination system comprising a key for
decrypting the encrypted media signal to recover the compressed media signal.
34. The method of claim 33, wherein authorizing comprises verifying payment information received with the media identifier.
35. The method of claim 33, wherein authorizing comprises:
verifying that a device identifier received with the media identifier corresponds to an authorized destination system.

36. The method of claim 33, wherein the token includes a use restriction specifying a number of remaining viewings for the compressed media signal, the method further comprising:


in response to positive number of viewings remaining within the token, selectively decoding each segment within the compressed media signal using a particular codec from the codec library specified by a codec indicator; and decrementing the number of remaining viewings within the token.


37. The method of claim 33, wherein the token includes a use restriction specifying an expiration time for viewing the compressed media signal, the method further comprising:

in response to the expiration time not having passed, selectively decoding each segment within the compressed media signal using a particular codec from the codec library specified by a codec indicator.

38. The method of claim 33, further comprising:
storing the token within the multimedia distribution device.

39. The method of claim 38, wherein storing comprises:
encrypting the token to make it readable only by the destination system.

40. A method for securely distributing multimedia content comprising: 
storing on a multimedia distribution device a compressed media signal in which
at least two segments have been selectively compressed using different
codecs from a codec library, the codecs being automatically selected to
produce a highest compression quality for the respective segments
according to a set of criteria without exceeding a target data rate;
encrypting a plurality of codec indicators specifying which codecs from the codec
library were used to respectively compress each segment within the
compressed media signal; and
storing the encrypted codec indicators with the compressed media signal on the
multimedia distribution device.

41. A system for securely distributing multimedia content comprising: 
an encryption module to encrypt a compressed media signal in which at least two
segments have been selectively compressed using different codecs from
a codec library, the codecs being automatically selected to produce a
highest compression quality for the respective segments according to a
set of criteria without exceeding a target data rate;
an output module to store the encrypted media signal on a multimedia
distribution device with a plurality of codec indicators specifying which
codecs from the codec library were used to respectively compress each
segment within the compressed media signal.

42. The system of claim 41, wherein the output module is to store a media identifier on the multimedia distribution device identifying the encrypted media signal.

43. The system of claim 42, further comprising a token server that, in response to receiving the media identifier from a destination system, is to authorize the destination system to play the compressed media signal and transmit a token to the destination system comprising a key for decrypting the encrypted media signal to recover the compressed media signal.

44. The system of claim 43, wherein the token server is to authorize the destination system to play the compressed media signal by verifying payment information received with the media identifier.

45. The system of claim 43, wherein the token server is to authorize the destination system to play the compressed media signal by verifying that a device identifier received with the media identifier corresponds to an authorized destination system.

46. The system of claim 43, wherein the token includes a use restriction specifying a number of remaining viewings for the compressed media signal, and wherein the destination system, in response to positive number of viewings remaining within the token, is to selectively decode each segment within the compressed media signal using a particular codec from the codec library specified by a codec indicator and decrement the number of remaining viewings within the token.

47. The system of claim 43, wherein the token includes a use restriction specifying an expiration time for viewing the compressed media signal, and wherein the destination system, in response to the expiration time not having passed, is to selectively decode each segment within the compressed media signal using a particular codec from the codec library specified by a codec indicator.

48. The system of claim 43, wherein the destination system is to store the token within the multimedia distribution device.

49. The system of claim 48, wherein the destination system is to encrypt the token within the multimedia distribution device to make it readable only by the destination system.

50. A system for securely distributing multimedia content comprising:
an output module to store on a multimedia distribution device a compressed media signal in which at least two segments have been selectively compressed using different codecs from a codec library, the codecs being automatically selected to produce a highest compression quality for the respective segments according to a set of criteria without exceeding a target data rate;

an encryption module to encrypt a plurality of codec indicators specifying which
codecs from the codec library were used to respectively compress each
segment within the compressed media signal; and
wherein the output module is to store the encrypted codec indicators with the
compressed media signal on the multimedia distribution device.